

**Translation**

PATENT COOPERATION TREATY

**PCT**

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 1999/M210 PCT	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP00/02809	International filing date (day/month/year) 30 March 2000 (30.03.00)	Priority date (day/month/year) 30 April 1999 (30.04.99)
International Patent Classification (IPC) or national classification and IPC C12P 13/04		
Applicant AVENTIS CROPS SCIENCE GMBH		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u>3</u> sheets.</p>	
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>	

Date of submission of the demand 02 November 2000 (02.11.00)	Date of completion of this report 27 July 2001 (27.07.2001)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

**I. Basis of the report****1. With regard to the elements of the international application:**<sup>\*</sup>

- ☐ the international application as originally filed
- ☒ the description:  
pages \_\_\_\_\_ 1-14 \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the claims:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, as amended (together with any statement under Article 19  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_ 1-13 \_\_\_\_\_, filed with the letter of \_\_\_\_\_ 27 April 2001 (27.04.2001)
- ☐ the drawings:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

**2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.**

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

**3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:**

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

**4. ☐ The amendments have resulted in the cancellation of:**

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig. \_\_\_\_\_

**5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\***

<sup>\*</sup> Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

<sup>\*\*</sup> Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP 00/02809

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-13	YES
	Claims		NO
Inventive step (IS)	Claims	1-13	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims		NO

## 2. Citations and explanations

## 1). Reference is made to the following document:

D1 = EP-A-0 477 902 (HOECHST AKTIENGESELLSCHAFT  
(DE); BARTSCH K.; FÜLLING G.; SCHULZ A.),  
1 April 1992.

- 2.1) Document D1 is considered to be the closest prior art with respect to the subject matter of Claim 1. It discloses a process for producing L-phosphinothricine (L-PPT) from 4-(hydroxymethylphosphinyl)-2-oxo-buteric acid (PPO) by means of a coupled enzymatic reaction that comprises a PPT-specific transaminase and a glutamate: oxalacetate transaminase (D1: pages 2-3).

Thus, the subject matter of Claim 1 differs from that known process in that a single PPT-specific transaminase, which can accept aspartate as the donor, is used.

The subject matter of Claim 1 is thus novel (PCT Article 33(2)).

- 2.2). The problem addressed by the present invention can thus be seen as presenting a more efficient process

for producing L-PPT (with regard to optimizing the reaction procedure).

The solution proposed in Claim 1 of the present application for this problem involves an inventive step (PCT Article 33(3)) because a process for producing L-PPT by a single transamination reaction that uses PPT-specific transaminase, which uses aspartate as the donor, cannot be derived in an obvious way from the available prior art.

Claims 2-9 are dependent on Claim 1 and thereby similarly satisfy the PCT requirements in regard to novelty (PCT Article 33(2)) and inventive step (PCT Article 33(3)).

2.3). With regard to the reasons in 2.1) and 2.2), microorganisms DSM13353, DSM13354, DSM13355, and DSM13356 with L-PPT-specific aspartate transaminase activity (Claims 10-13 of the present application) are also novel (PCT Article 33(2)) and involve an inventive step (PCT Article 33(3)).

2.4) The industrial applicability of the subject matter of Claims 1-13 is established (PCT Article 33(4)).

## PCT COOPERATION TREATY

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From the INTERNATIONAL BUREAU

NOTIFICATION OF THE RECORDING  
OF A CHANGE(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

To:

AVENTIS CROPSCIENCE GMBH  
Patent- und Lizenzabteilung  
Gebäude K 801  
D-65926 Frankfurt am Main  
ALLEMAGNE

Date of mailing (day/month/year)

27 September 2001 (27.09.01)

Applicant's or agent's file reference

1999/M210 PCT

## IMPORTANT NOTIFICATION

International application No.

PCT/EP00/02809

International filing date (day/month/year)

30 March 2000 (30.03.00)

## 1. The following indications appeared on record concerning:

☒ the applicant    ☐ the inventor    ☐ the agent    ☐ the common representative

Name and Address

AVENTIS CROPSCIENCE GMBH  
Mirastrasse 54  
D-13509 Berlin  
Germany

State of Nationality

DE

State of Residence

DE

Telephone No.

069 305 3757

Facsimile No.

069 305 2200

Teleprinter No.

## 2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person    ☐ the name    ☒ the address    ☐ the nationality    ☐ the residence

Name and Address

AVENTIS CROPSCIENCE GMBH  
Brüningstrasse 50  
D-65929 Frankfurt  
Germany

State of Nationality

DE

State of Residence

DE

Telephone No.

069 305 3757

Facsimile No.

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Teleprinter No.

## 3. Further observations, if necessary:

## 4. A copy of this notification has been sent to:

☒ the receiving Office    ☐ the designated Offices concerned  
☐ the International Searching Authority    ☒ the elected Offices concerned  
☒ the International Preliminary Examining Authority    ☐ other:

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Gabri le BAEHR

Telephone No.: (41-22) 338.83.38

## PCT COOPERATION TREATY

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## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner  
 US Department of Commerce  
 United States Patent and Trademark  
 Office, PCT  
 2011 South Clark Place Room  
 CP2/5C24  
 Arlington, VA 22202  
 ETATS-UNIS D'AMERIQUE  
 in its capacity as elected Office

<b>Date of mailing (day/month/year)</b> 23 November 2000 (23.11.00)	
<b>International application No.</b> PCT/EP00/02809	<b>Applicant's or agent's file reference</b> 1999/M210 PCT
<b>International filing date (day/month/year)</b> 30 March 2000 (30.03.00)	<b>Priority date (day/month/year)</b> 30 April 1999 (30.04.99)
<b>Applicant</b> BARTSCH, Klaus	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:  
02 November 2000 (02.11.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was  
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer  R. E. Stoffel Telephone No.: (41-22) 338.83.38
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